

## I CLAIM:

- 1 1. A back support apparatus for use with a backpack, said back  
2 support apparatus comprising:  
3 a pair of elongated inflatable bladders spaced  
4 generally parallel to each other and adapted to be  
5 vertically connected to a front panel of said backpack to  
6 provide cushioned back support on opposite sides of a user's  
7 spinal column along at least a thoracic region thereof when  
8 said backpack is carried on the user's back;  
9 pump means for inflating said pair of bladders; and  
10 valve means for deflating said pair of bladders.
2. The back support apparatus as in Claim 1,  
wherein said pair of bladders are spaced at most two  
inches from each other.
3. The back support apparatus as in Claim 1,  
wherein said pair of bladders are spaced to exert a  
support force against the user's spinal column from opposite  
sides thereof when said backpack is carried on the user's  
back.

4. The back support apparatus as in Claim 1,  
 wherein each bladder has an inflated diameter of at  
 most two inches.
5. The back support apparatus as in Claim 1,  
 wherein each bladder has at least one inflation chamber  
 which is inflatable and deflatable independent of other  
 inflation chambers.
6. The back support apparatus as in Claim 1,  
 wherein each bladder has an inflation chamber  
 communicably connected to the inflation chamber of the other  
 bladder by at least one bridge conduit.
7. The back support apparatus as in Claim 6,  
 wherein the at least one bridge conduit has an inflated  
 diameter less than an inflated diameter of each bladder.
8. The back support apparatus as in Claim 1,  
 wherein each bladder has at least two inflation  
 chambers, each inflation chamber communicably connected to a  
 corresponding inflation chamber of the other bladder by a

5 corresponding at least one bridge conduit to form at least  
6 two support sections, each support section being inflatable  
7 and deflatable independent of other support sections.

1 9. A backpack system for reinforceably supporting a user's  
2 back, said backpack system comprising:

3 a backpack having a front panel;

4 a pair of elongated inflatable bladders spaced  
5 generally parallel to each other;

6 means for vertically connecting said pair of bladders  
7 to the front panel of said backpack to provide cushioned  
8 back support on opposite sides of a user's spinal column  
9 along at least a thoracic region thereof when said backpack  
10 is carried on the user's back;

11 pump means for inflating said pair of bladders; and

12 valve means for deflating said pair of bladders.

10. The backpack system as in Claim 9,

wherein said pair of bladders are spaced at most two  
inches from each other.

1 11. The backpack system as in Claim 9,

2            wherein said pair of bladders are spaced to exert a  
3            support force against the user's spinal column from opposite  
4            sides thereof when said backpack is carried on the user's  
5            back.

12. The back support apparatus as in Claim 9,  
         wherein each bladder has an inflated diameter of at  
         most two inches.
13. The backpack system as in Claim 9,  
         wherein each bladder has at least one inflation chamber  
         which is inflatable and deflatable independent of other  
         inflation chambers.
14. The backpack system as in Claim 9,  
         wherein each bladder has one inflation chamber  
         communicably connected to the inflation chamber of the other  
         bladder by at least one bridge conduit.
15. The backpack system as in Claim 14,  
         wherein the at least one bridge conduit has an inflated  
         diameter less than an inflated diameter of each bladder.

1 16. The backpack system as in Claim 9,

2 wherein each bladder has at least two inflation  
3 chambers, each inflation chamber communicably connected to a  
4 corresponding inflation chamber of the other bladder by a  
5 corresponding at least one bridge conduit to form at least  
6 two support sections, with each support section being  
7 inflatable and deflatable independent of other support  
8 sections.

1 17. The backpack system as in Claim 9,

2 wherein said means for vertically connecting said pair  
3 of bladders to the front panel of said backpack includes a  
4 second panel connected to said front panel to form an  
5 interstitial volume therebetween, said interstitial volume  
6 for retainably receiving said pair of bladders therein.